

Mountain Home AFB Title V Renewal Addendum NSPS Subpart IIII Applicability

Introduction

On behalf of Mountain Home Air Force Base (MHAFB), CH2M HILL has prepared an addendum in support of the Title V Renewal Application for any potential new emergency diesel generator that may be used at MHAFB and subject to 40 CFR Part 60 Subpart IIII. The MHAFB Title V Renewal Application was submitted to the Idaho Department of Environmental Quality (DEQ) on March 23, 2007.

Background

MHAFB owns and operates various stationary internal combustion engines. These engines may be purchased as new, used, or re-manufactured and may be subject to new air emissions source standards. EPA has promulgated New Source Performance Standards (NSPS) for stationary compression ignition internal combustion engines codified at 40 CFR Part 60 Subpart IIII. *“Standards of Performance for Stationary Compressor Ignition Internal Combustion Engines”*.

Applicability

NSPS Subpart IIII applies to stationary compression ignition (CI) internal combustion engines (ICE) that are new, or modified such that they qualify as new sources after July 11, 2005. The applicability provisions of Subpart IIII to apply to owners or operators that:

- Commence construction (ie. order the engine) after July 11, 2005 and the engine is manufactured after April 1, 2006 and is not a fire pump.
- Modify or reconstruct any stationary CI ICE after July 11, 2005. (Note these terms mean a change to any engine that causes an increase in in the ability to emit any pollutant regulated under this subpart, or reconstruct an existing source such that the cost of the new components is greater than 50% of the cost of a comparable new unit).
- The rule does not apply to stationary CI ICE that require testing in a test cell or stand (i.e. jet engine testing).
- The applicability also exempts CI engines that are regulated under other standards, or are engines used for propulsion or other non-stationary purposes. The references in the applicability section are engines described in:

- 40 CFR 1068 Subpart C - *General Compliance for Non-Road Programs*. A non-road engine generally means an engine that is self propelled or intended to be propelled, or intended to be portable).
- 40 CFR Part 89 Subparts A and J - *Control of Emissions from New and in-Use Nonroad Compression-Ignition Engines*. These engines are in general, engines in locomotives, marine engines, mining engines, aircraft engines, hobby engines and engines used in competition.
- 40 CFR Part 94 Subpart J - *Control of Emissions from Marine Compression-Ignition Engines*.

“*Emergency stationary internal combustion engine* means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc.”

Emission Requirements

MHAFB has several options to demonstrate compliance with the rule. In most cases, MHAFB will purchase an engine certified for stationary use by the manufacturer. The rule will also require MHAFB to operate and maintain the engine according to the manufacturer’s instructions. If a non-certified engine is purchased, then MHAFB will need to perform emission testing to demonstrate compliance.

If MHAFB purchases a CI ICE with a displacement of greater than 30 liters per cylinder, they must conduct an initial performance test to demonstrate compliance with emission requirements, establish operating parameters, and monitor operating parameters continuously.

Owners and operators of emergency generators must meet emissions limits for the engine useful life as described below:

Category	Emission Standards
Pre-2007 engines < 10 liter/cylinder	See Table 1 of Subpart IIII
2007 year and later with a displacement of < 30 liters per cylinder	Section 4202 of Subpart IIII (standards for engine manufacturers)
All with displacement of equal to 30 liter/cylinder or greater	Reductions of NOx by 90% and PM by 60%, or meet numerical emission limits. (Section 60.4205(d))

Operating Requirements

Maintenance and testing hours of operation for emergency stationary CI ICE are limited to 100 hours per year. If additional engine hours are needed for maintenance and testing, a

petition may be sent in to the Administrator for approval. There is no time limit on the use of emergency stationary CI ICE.

Fuel Use Requirements

Affected engines must switch to low sulfur fuels containing no more than 500 ppm sulfur by October 2007 for all engines. Ultra low-sulfur fuel (15 ppm sulfur) must be used by October, 2010 for all engines less than 30 liters per cylinder.

Monitoring Requirements

A non-resettable hour meter is required to be installed for each *emergency* stationary CI ICE cover by this rule.

Notification, Reporting, and Recordkeeping Requirements

Initial notification is not required for *emergency* stationary CI ICE. The total hours per year the engine was used must be monitored and records kept.

MHAFB is proposing to maintain a list on-site. This will include an updated list of any affected units and manufacturer information included below.

Mr. Doug Hardesty also verbally stated that as the EPA Region X representative of the Idaho Title V Program, EPA Region X would accept a mutually agreed upon provision for compression ignition (CI) internal combustion engines (ICE) in the Title V Renewal for periodic record-keeping as long as Idaho DEQ was in agreement.

There are currently two MHAFB stationary emergency diesel generators that are subject to 40 CFR 60, Subpart IIII:

- (1) Rapcon facility
Manufacturer: Cummins
Model No: DQDAA-5781700
SN: A070016440
Constructed: March 14, 2007
Power Rating: 250 kW
- (2) Power Pro – Lighting Vault
Manufacturer: Cummins
Model No: DSHAC-5864313
SN: F070068452
Constructed: June 14, 2007
Power Rating: 200 kW

Proposed Permit Language

MHAFB conducted a preliminary review of the applicable provisions of Subpart IIII that were incorporated into the “High Desert Milk, Inc.” Permit-to-Construct (PTC). The “High Desert Milk, Inc.” PTC is currently open for public comment. MHAFB is proposing to use the same provisions of Subpart IIII as stated in the “High Desert Milk, Inc.” PTC to incorporate into the MHAFB Tier I Operating Permit. MHAFB will comment on the permit requirements of Subpart IIII during review of the DRAFT Tier I Operating Permit Renewal.

Additional permit language is presented below:

Monitoring and Record-Keeping Requirements

MHAFB is not subject to the initial notification requirements for emergency stationary CI ICE.

MHAFB shall maintain a list of applicable emergency compression ignition (CI) internal combustion engines (ICE) that are subject to NSPS 40 CFR 60, Subpart IIII, even if the affected unit is not specifically addressed in the MHAFB Tier I Operating Permit. A list of affected units will be maintained by MHAFB and kept on file.